



An imprint of The Energy and Resources Institute

© The Energy and Resources Institute, 2011

First published in 2011 by
The Energy and Resources Institute
TERI Press
Darbari Seth Block, IHC Complex, Lodhi Road,
New Delhi 110 003, India
Tel. 2468 2100/4150 4900, Fax: 2468 2144/2468 2145
India +91 Delhi (0)11

Email: teripress@teri.res.in • Website: http://bookstore.teriin.org

#### ISBN 978-81-7993-240-7

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the publisher.

All export rights for this book vest exclusively with The Energy and Resources Institute (TERI). Unauthorized export is a violation of terms of sale and is subject to legal action.

Author: Vijita Mukherjee Managing Editor: Anupama Jauhry Series Editor: Arshi Ahmad Technical Review: Dr Nandini Kumar Creative Head: Priyabrata Roy Chowdhury

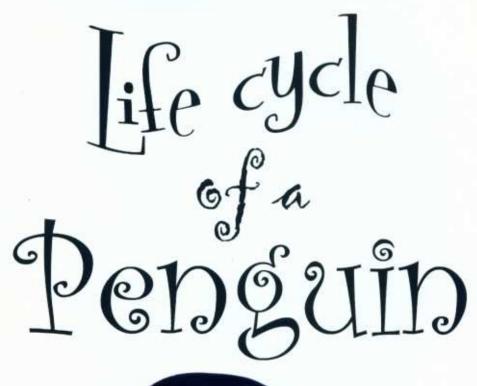
Design: Santosh Gautam

Colouring Artists: Neeraj Riddlan and Vijay Nipane

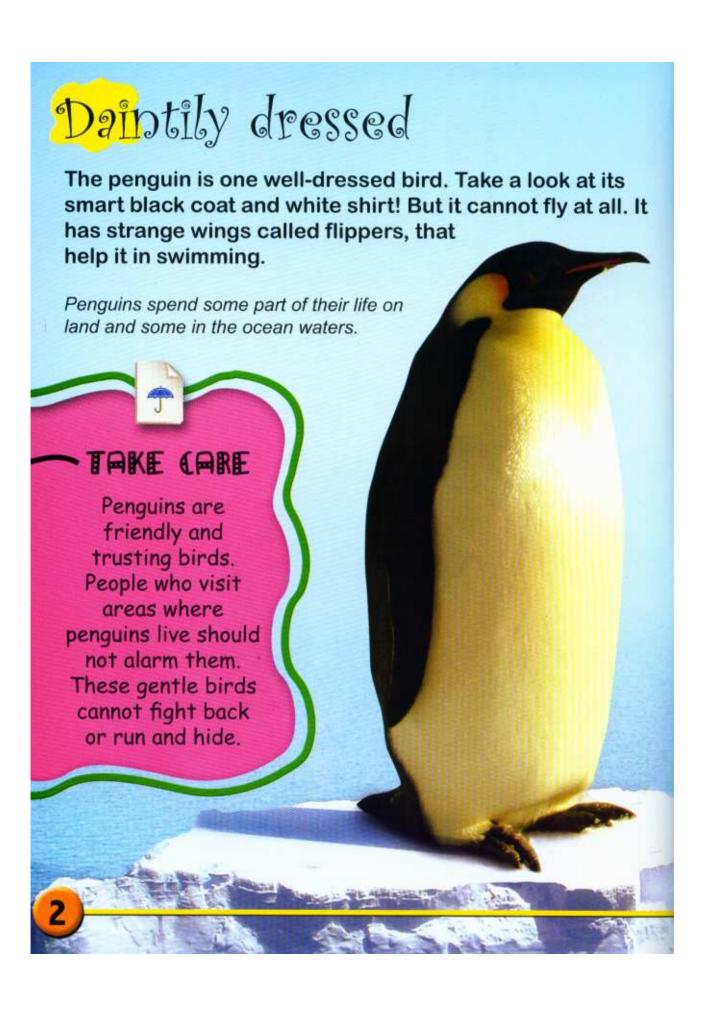
Image Research: Yukti Garg Production Head: T Radhakrishnan Prepress: R Ajith Kumar and M Alam

Printed and bound in India

This book is printed on recycled paper.









Though penguins are great underwater swimmers, penguin chicks cannot swim. In fact, the little chicks do not enter the water till they are grown up. If they did, they would find it too cold, and their soft feathers would get all sticky and wet.

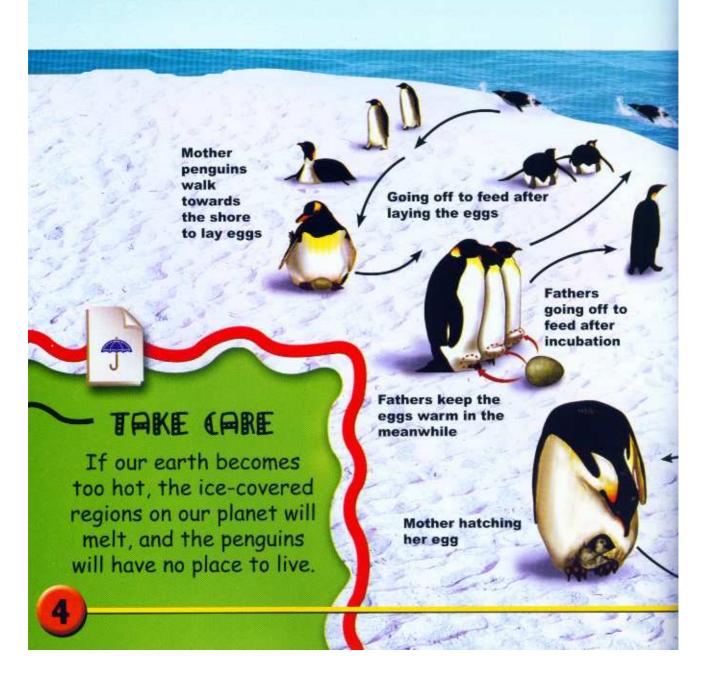
Then how do penguins grow into diving champs, who spend long hours in the sea?

Let's find out Mone

Penguins cannot breathe under water. They can, however, hold their breath for as long as twenty minutes. That's how they remain under water for so long.

# Living life

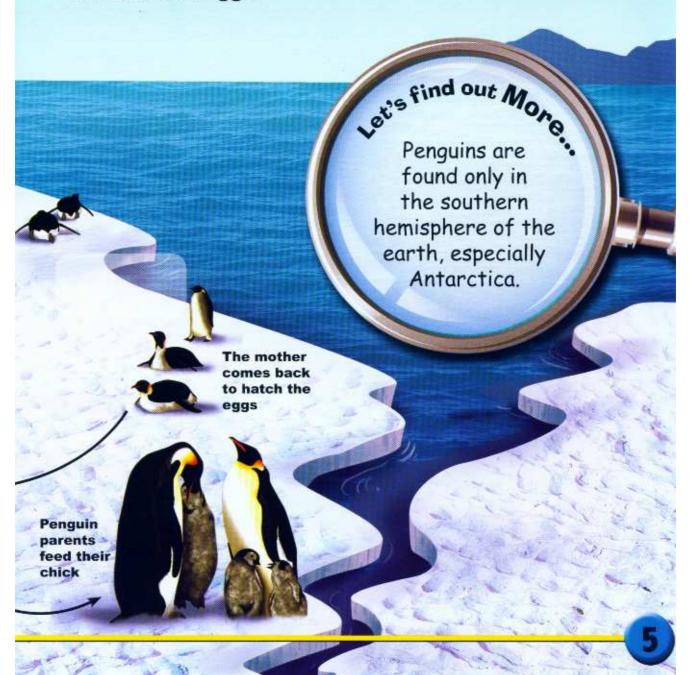
Different living beings have different kinds of life cycles. Some start as caterpillars and grow into butterflies. Some, like kangaroos, live in special pouches till they are big enough. Baby penguins hatch out of eggs, like any other bird.





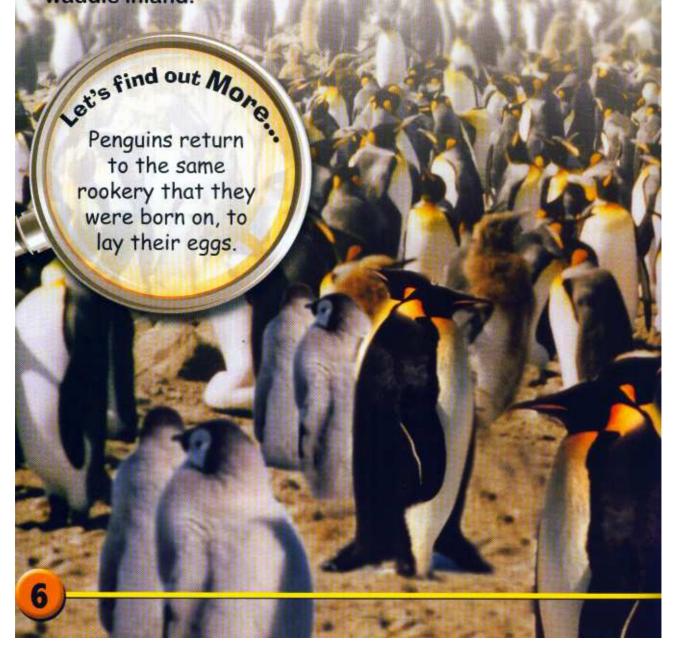


Penguin eggs are white to bluish or greenish in colour. Some eggs are round, while others are shaped like pears. A nest of eggs is called a clutch. Usually, a clutch contains two eggs.





Mother and father penguins swim for many miles across the cold sea to reach a special place called a 'rookery', where the eggs are to be laid. Once they reach the rookery, they jump up and out of the water. This must be the few times that penguins are actually in air! Then they waddle inland.

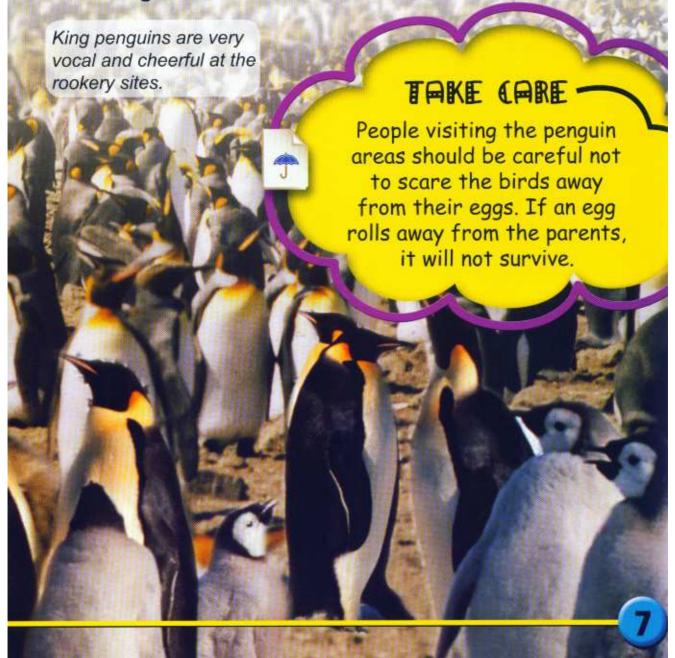




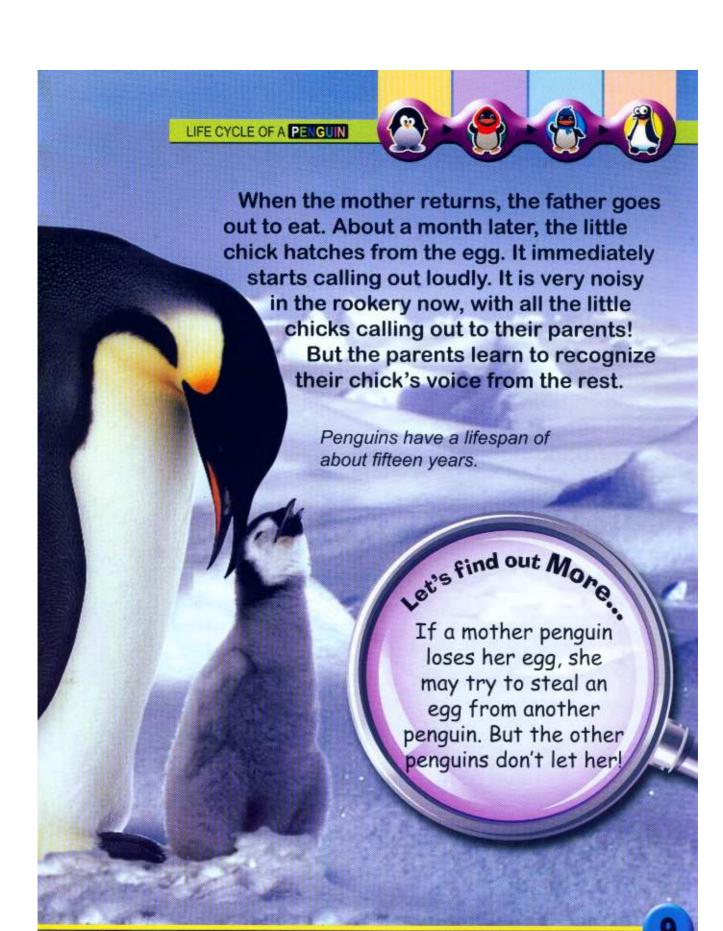


The rookery becomes home to several hundred penguins and gets rather crowded!

Some penguin fathers build homes before the mother arrives. Soon, the mother penguins lay eggs, which are white to greenish blue in colour.









The little penguin chicks are covered with soft feathers.

They don't have waterproof feathers like their parents.

So the chicks don't enter the water. When the chicks are very small, the parents take turns to go out and bring fresh food from the

sea for them.

Penguins have spikes on their tongues. This stops slippery food like fish from falling out!





After a month, all the little chicks in the rookery are left together in a group, and both parents leave to look for food. Almost like a day care centre! The chicks huddle together, so they don't feel cold. And some

parent or the other is always coming and going. But the mother and the

father will only feed their own chick!

Emperor chicks have markings that make them more visible against the ice and snow.

### TAKE CARE -

Penguins eat fish and krill. Pollution in the ocean waters kills these creatures, leaving no food for the penguins.



## Chosen chick

Once the little chick develops its waterproof coat of feathers, it is ready to leave the rookery. This happens when it is almost four to five months old. Now it is big

enough to go to the sea and look for ges sind out Mone

food, all by itself.

Penguins can swim at a speed of fifteen to twenty kilometres per hour.

The black and white body of the young penguin is a great protection against enemies like the leopard seal or the killer whale. With its light coloured under-parts it is difficult to see the penguin under the water. Its dark coloured upper parts also make it difficult to spot from above.

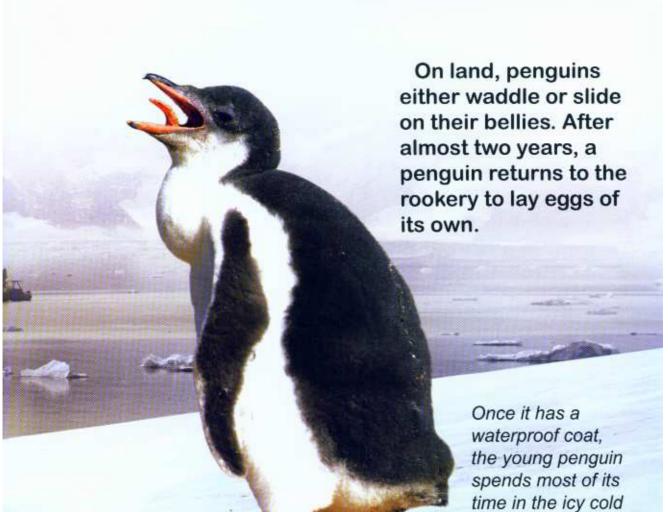
#### TAKE (ARE

In the past, penguins have been killed for their skin. Their skin is used to make caps, slippers, purses and various other accessories.



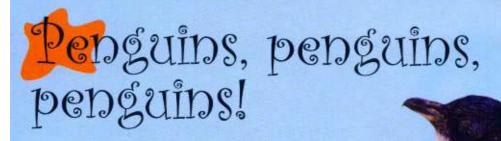






water, catching fish with its beak and

swallowing it, head first.

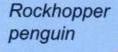


There are many different kinds of penguins. Take a look at all these smart little fellows. They have the same life cycle, though they may lay eggs at different times of the year.

### Rockhopper penguin

Did you guess? It bounces from rock to rock and builds its nest in rocky areas.





Let's find out Mone.

Penguins drink salty sea water. They have a special system in their body, which removes the salt from the water and pushes it out of their beaks!

#### LIFE CYCLE OF A PENGUIN



#### Little blue penguin

Also known as the fairy penguin, this penguin is just sixteen inches tall!

Macaroni penguin Just look at its colourful head!

#### **Emperor penguin**

The largest of the penguins, it stands at almost four feet.



**Emperor** penguin



TAKE (ARE

If there are too many human beings around, penguins feel stressed. This affects their ability to look after their chicks.

Macaroni penguin

How do penguins keep warm?

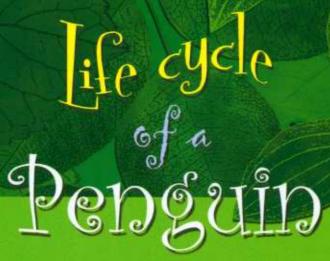
Penguins live in the earth's coldest zone.
But these birds have a wonderful way to keep themselves warm.

Penguins have a layer of fat called 'blubber' just under their skin.
This is like a thick woollen jacket, which keeps them warm.
Over the skin is a layer of fluffy feathers, like a soft quilt.
Covering all this is the layer of outer feathers, which keeps the cold and icy winds out.

Penguins also rub oil on their feathers to keep away the cold, wind, and water. The oil comes from a gland at the base of the penguin's tail and makes the feathers look shiny. And if that isn't warm enough, penguins huddle close to each other. Now that's really nice and cozy!



GREEN BOOK



How does a bunch of tiny eggs change into a beautiful butterfly? What happens to a tadpole's tail when it grows into a frog? How does a baby whale drink its mother's milk to grow big and strong? Who looks after the elephant calf? When does a joey leave its mother's pouch? There's a lot of love, care, and magic in nature's circle of life. Read on...

Other titles in this series:

Life cycle of a Butterfly Life cycle of an Elephant Life cycle of a Frog Life cycle of a Kangaroo Life cycle of a Whale

Ages: 5-8

ISBN 978-81-7993-240-7



₹ 75

This book is printed on recycled paper.

ter

The Energy and Resources Institute